

Straight MEMS Variable Optical Attenuator

(patents pending)

Product Description

with the Telcordia 1209 and 1221 reliability standards. It is available in either normally-transparent or normally-dark configurations. The SM Series VOA has a unique design that can be used over a wide operation wavelength for both single mode and multimode propagation. It is based on a proprietary micro-electro-mechanical mechanism without any antireflection coating in the optical path. The SM Series VOA is fully compliant

The VOA is driven with an electrical current at low voltage, and the attenuation can be continuously adjusted with the applied current.



Performance Specifications

SM Series VOA	Min	Typical	Max	Unit
Operation Wavelength	500	S+C+L	1700	nm
Insertion Loss ^{1,5}		0.6	0.8	dB
Polarization Dependent Loss ²		0.15	0.4	dB
Wavelength Dependent Loss ^{2,4}		0.3	0.6	dB
Temperature Dependent Loss ³		0.05	0.2	dB
Attenuation Range ⁵		25	60	dB
Attenuation Resolution		Continuous		
Polarization Mode Dispersion ²		0.01	0.05	ps
Return Loss ⁵	45			dB
Response Time		2.5	5	ms
Operating Temperature	-5		75	°C
Driving Current ²			60	mA
Driving Voltage ²			3.1	V
Optical Power Handling		100	300	mW
Storage Temperature	-40		85	°C
Reliability		Telcordia 1209 and 1221		
Fiber Type		Corning SMF28		
Package Dimension ⁵		Φ6.0x30		mm

Notes:

1. Without connector and at room temperature; for S+C+L bands
2. At attenuation of 20dB or less
3. At 0 attenuation and at whole temperature range
4. Within 30nm bandwidth
5. For multimode, this value depend on the mode fill ratio

Features

- Broad-Band
- Low Cost
- High Reliability
- Low IL, PDL, WDL & TDL
- Direct Current Drive
- Low Power Consumption

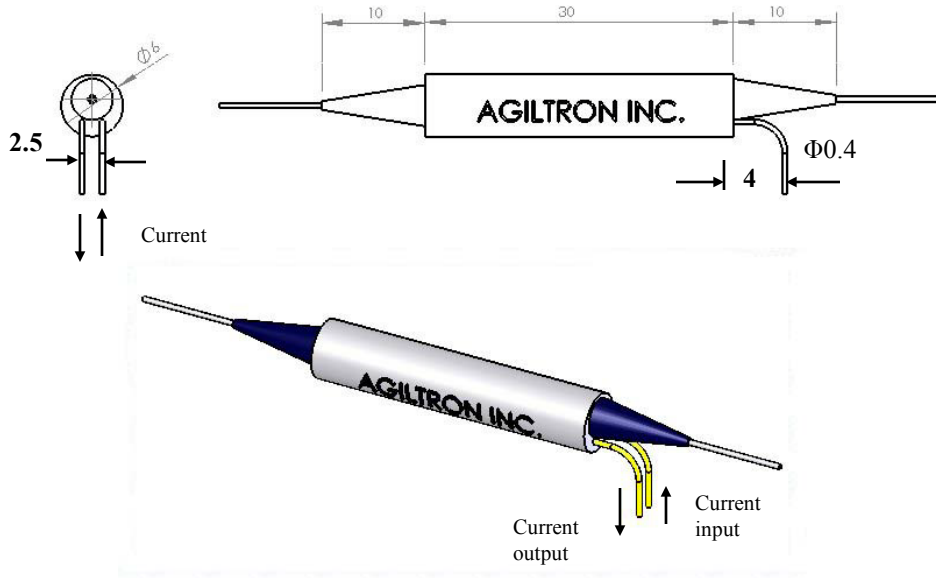
Applications

- Power Control
- Power Regulate
- Channel Balance
- Instrumentation



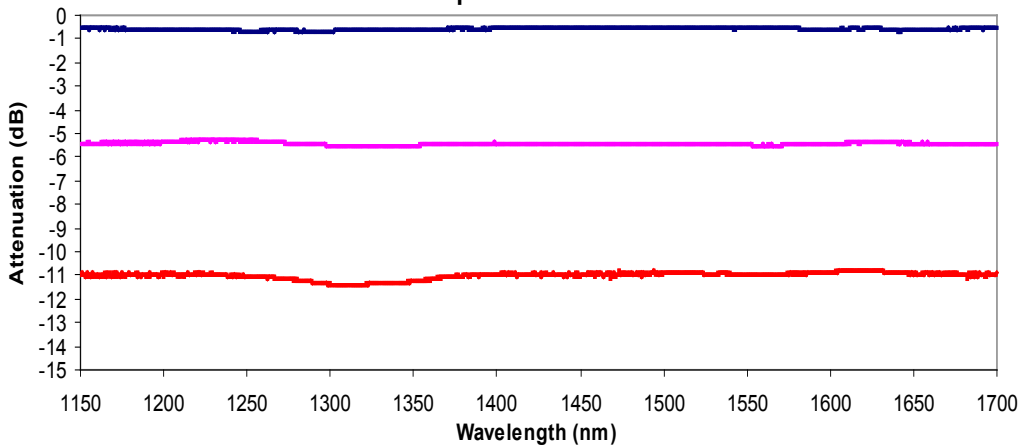
Straight MEMS Variable Optical Attenuator (SMOA)

Mechanical Footprint Dimensions (mm)



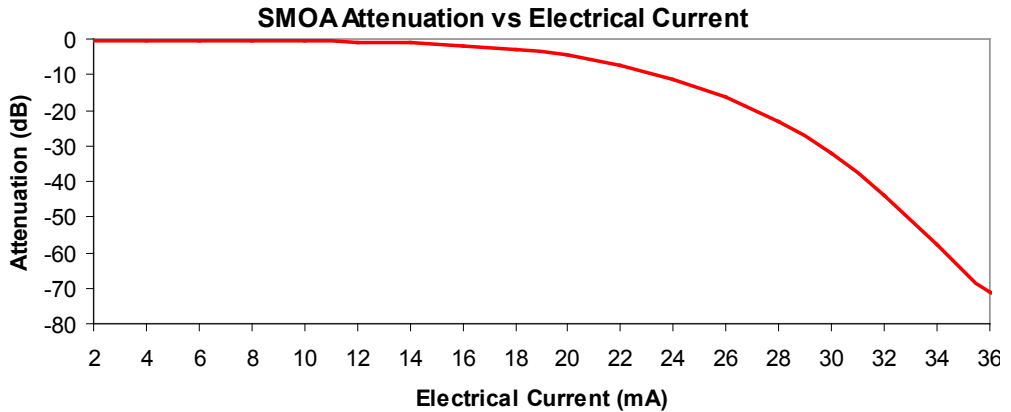
WDL Spectrum

WDL Spectrum of SMOA



Straight MEMS Variable Optical Attenuator (SMOA)

Attenuation Response



Package Type 1 (Standard)

Ordering Information

SMOA -	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Type	Wavelength	Off State	Package Type	Fiber Type	Bare fiber=1 900um tube=3 Special=0	Fiber Length	Connector	
Voltage control=11 Current Control=22	S+C+L=1 1310=3 1550=5 1260-1620=24 50=4 680=6 780=7 980=9 Special=0	Normally open =1 Normally opaque=2	Standard=1 Special=0	SMF-28=1 Special=0		0.25m=1 0.5m=2 1.0 m=3 Special=0	None=1 FC/PC=2 FC/APC=3 SC/PC=4 SC/APC=5 ST/PC=6 LC=7 Special=0	

